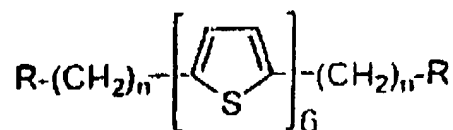


IN THE CLAIMS

Claim 1 (Currently Amended) A structure composition of matter comprising a sexithiophene:

a' where the a- and w-carbons of the terminal thiophene rings are substituted with alkyl groups having a polar functionality R at their terminal carbons; and



Claim 2 (Currently Amended) A structure composition of matter of claim 1, where the alkyl groups on both ends have from one to 10 carbons[], preferably from 2-6 carbons].

Claim 3 (Currently Amended) A structure composition of matter of claim 2, where alkyl groups on the terminal rings are substituted at their terminal carbon atoms by a polar functionality.

Claim 4 (Currently Amended) A structure composition of matter of claim 3, where the polar functionality is a dialkyl phosphonate group.

Claim 5 (Currently Amended) A structure composition of matter of claim 3, where the polar functionality is a phosphonic acid group.

Claim 6 (Currently Amended) A structure composition of matter of claim 3, where the polar functionality is a carboxylic acid group.

Claim 7 (Currently Amended) A structure composition of matter of claim 3, where the polar functionality is a carboxylic ester group.

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Claim 8 (Currently Amended) A ~~structure~~ composition of matter of claim 3, where the polar functionality is an amino group.

Claim 9 (Currently Amended) A ~~structure~~ composition of matter of claim 3, where the polar functionality is an amide group.

Claim 10 (Currently Amended) A ~~structure~~ composition of matter of claim 3, where the polar functionality is a hydroxyl group.

Claim 11 (Withdrawn) A field effect transistor comprising:

- a source region and a drain region;
- a channel layer extending between said source region and said drain region, said channel layer comprising a semiconducting organic material;
- a gate region disposed in spaced adjacency to said channel layer, and
- an electrically insulating layer between said gate region and said source region, drain region, and channel layer.

Claim 12 (Withdrawn) A field-effect transistor as set forth in claim 11, where said source region, channel layer and drain region are disposed upon a surface of a substrate, said electrically insulating layer is disposed over said channel layer and extending from said source region to said drain region, and said gate region is disposed over said electrically insulating layer.

Claim 13 (Withdrawn) A field effect transistor as set forth in claim 11, where said gate region is disposed as a gate layer upon a surface of a substrate, said electrically insulating layer is disposed upon said gate layer, and said source region, channel layer, and drain region are disposed upon said electrically insulating layer.

Claim 14 (Withdrawn) A field effect transistor as set forth in claim 11, wherein said organic material is a sexithiophene derivative of claim 1.

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Claim 15 (Withdrawn) A field effect transistor as set forth in claim 14, wherein said sexithiophene is applied from a solution of said sexithiophene in an organic solvent.

Original
Claim 16 (Withdrawn) A field effect transistor as set forth in claim 14, wherein the organic material is applied by high vacuum evaporation techniques.

Claim 17 (Withdrawn) A field effect transistor as set forth in claim 11, where the substrate is a flexible material.

Claim 18 (Withdrawn) A field effect transistor as set forth in claim 11, wherein the substrate is comprised of a plastic material.

Claim 19 (New) A composition of matter according to claim 1, where the alkyl group on both ends have from 2 to 6 carbons.

Claim 20 (New) A composition of matter according to claim 1, where the alkyl group is selected from the group consisting of phosphonic esters, phosphonic acids, phosphonates, carboxylic acids, carboxylates, amines, amides, carbamates, and alcohols, each separated from the terminal thiophene rings.
